

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : YASUHIRO KAWAGUCHI ET. AL.

Serial No. : 09/939,599

Filed : August 28, 2001

For : LUBRICATING OIL FOR REFRIGERATOR WITH COMPRESSOR

Art Unit & Examiner : 1764, Ellen M. McAvoy

DECLARATION UNDER 37 C.F.R. 1.132

Honorable Commisioner of Patents and Trademarks

Washington, D.C. 20231

Sir:

I, the undersigned Masato Kaneko do hereby declare:

That I completed the master's course in the faculty of engineering in Gunma University in March 1981, entered Idemitsu Kosan Co., Ltd. in April 1981, and since October 1983, have occupied in a research and development in lubricating oil, chiefly in lubricating oil for refrigerator oil, up to now;

That I am an inventor of the present invention;

That I have a good knowledge of the English language and have read and understood the application papers and the Examiner's Official Action as well as the reference cited therein in the prosecution of the above identified patent application; and

That, in order to show the different between the subject matter of reference (Sasaki et. al.) and the subject matter of the application, the following experiment was carried out.

Experiment

(1) Procedures of Experiment :

A specified samples, which are methylether derivatives of dihydroxypolyoxypropyleneglycol (Me-PO-Me) having various kinematic viscosities were added into a pressure glass ampule so that the amount of the sample would be 10% by weight to Flon 134a (1,1,1,2-tetrafluoroethane), and this was joined to a vacuum pipe and Flon 134a gas pipe. Afterwards, the ampule was subjected to vacuum degassing at a room temperature, and cooled with liquid nitrogen to take out the specified Flon 134a. Then, the ampule was sealed, heated from -40°C in a thermostat and the starting temperature of phase separation was measured.

(2) Results of Experiment

The results were shown in Table 1 and Figure 1. It is clear that there are two critical points around 10 cSt and 20 cSt. Sasaki only discloses polyoxyalkyleneglycol having the viscosity of over 25 cSt. Sasaki does not teach or suggest a refrigerating oil composition with a lubricating oil having a kinematic viscosity of 2 to 9.70 cSt at 100°C.

Table 1

	The structure of the polyalkyleneglycol	Viscosity at 100°C (mm ² /s)	Starting Temperature of phase separation (°C)
Example 7	Me-PO-Me	7.50	79.5
Example 8	Me-PO-Me	9.70	70.5
Experimental Data 1	Me-PO-Me	12.3	65.0
Experimental Data 2	Me-PO-Me	15.1	55.0
Experimental Data 3	Me-PO-Me	20.1	17.0
Comparative example 6	Me-PO-Me	22.4	9.5
Comparative experimental Data 1	Me-PO-Me	28.5	-1.0

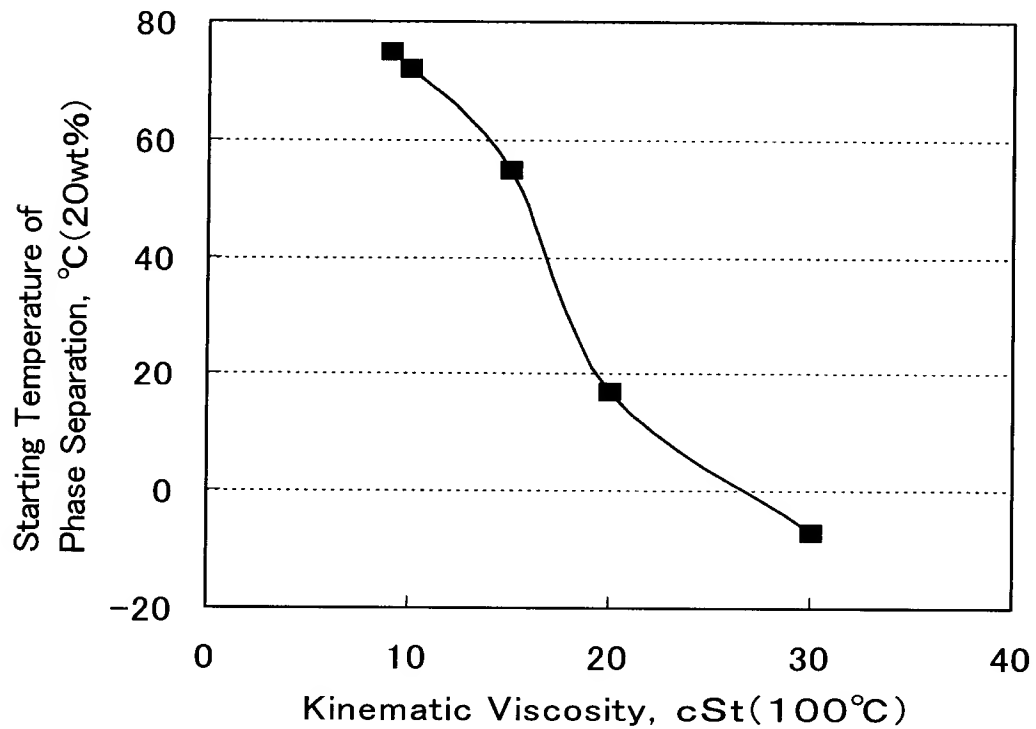


Fig. 1

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Masato Kaneko
Masato Kaneko

Date ; Dec. 27. 2007